

## CHAPTER 2 Existing Conditions

How is Alameda County's transportation system working now and what quality of service can the CMA expect in the future with the money available? A key component of any long-term transportation plan is to determine whether planned improvements will be adequate to maintain the quality of transportation service given continued population and employment growth. Only with additional funding and continued management will the CMA help keep congestion from degrading the performance of the system and meet the standards of a modern system<sup>1</sup>.

### EXISTING CONDITIONS

#### Overall Transportation System

Alameda County extends from the region's urban core to its rural periphery, incorporating land uses that range from intensely urban to suburban and rural. The diversity in geography and in patterns of development leads to a variety of transportation needs within each community. Reflecting this diversity, Alameda County residents have a variety of modes and routes from which to choose.

Today, Bay Area residents consider transportation to be their second most pressing issue—after the economy—according to the Bay Area Council Poll conducted by Field Research Corporation in 2008. With the mortgage crisis, foreclosures and soaring fuel prices, for the first time since 2003, transportation is not the highest priority problem for the Bay Area.

Portions of Alameda County's roadway and transit network have been included in the MTC's Metropolitan Transportation System (MTS). Those streets and roads, highways, mass transit routes, bikeways, transfer points, airports and seaports are considered essential for regional mobility. An expanded description of the MTS is presented in Appendix B.

---

<sup>1</sup> Standards provide a benchmark for measuring performance of the roadway and transit systems. Roadway congestion standards are established by LOS, which are an indication of time lost in traffic congestion. LOS has six gradations, ranging from A to F. An LOS A designation represents free flow, or unimpeded travel at the posted speed limit. A LOS F designation represents very congested, bumper-to-bumper conditions. Congested locations are defined as those operating at LOS E or F.

Transit service standards established in the *Congestion Management Program* include frequency of service, routing, load factors and coordination of service with other transit operators.

## Roadways

Alameda County has an extensive network of interstate freeways, state highways and principal arterials that serve as primary trunklines and key connectors to adjacent counties. Several major transportation improvements were implemented or are under construction on Alameda County's roadway network since 2004 update of the *Countywide Transportation Plan*. These include:

- Traffic Management Plan (TMP) to address traffic during construction in the Tri-Valley Corridor;
- I-238 widening from four to six lanes;
- Widening of I-880/SR-262 interchange, and
- Route 84 HOV lane extension.

Also, funding is available to:

- Construct an eastbound I-580 HOV lane, I-680 to Greenville Road
- Construct a westbound HOV lane on I-580, from Greenville Road to I-680;
- Construct a southbound Smart Lane (HOT) lane on I-680 and install ramp metering;
- Improve connections at the I-580/SR-84/Isabel interchange;
- Construct an I-680 Sunol Grade Smart carpool lane;
- Construct I-880 corridor improvements at the 23<sup>rd</sup>/29<sup>th</sup> Avenue interchanges;
- Acquire right-of-way in the I-580 corridor for BART or future transit alternatives;
- I-80 Integrated Corridor Mobility Project;
- I-580 eastbound truck climbing lane;
- I-580 soundwalls at San Leandro;
- Ardenwood Park and Ride; and
- Extend a southbound HOV lane on I-880 from Hegenberger to Marina.

## Transit Service

Alameda County is well served by a variety of transit modes including intercity rail, BART rail, express bus, local bus and ferry. An expanded description of each major transit operation is presented in Appendix C.

## TRAVEL PATTERNS

Information on travel behavior discussed in this chapter, including how people get to work, is based on data from MTC's American Community Survey 2006, San Francisco Bay Area and the 2000 Census.

Demographic changes have occurred since 2000 that have impacted travel behavior in Alameda County and the Bay Area. Among the most significant are:

- Decrease (relative to inflation) in average household income;
- Higher cost of housing;
- Slight increase in average household size; and
- Growth in households with vehicle ownership.

In addition to demographic changes, the cost of gasoline has increased dramatically since 2000. Combined, these factors have contributed to Alameda County residents increasing their use of a range of transportation modes between 2000 and 2006, and a steady, rather than increased, reliance on the single-occupant automobile.

### **The Historical Commute**

Overall, the percentage of residents who both live and work in Alameda County has dropped steadily in the past four decades. In 1960, more than 87 percent of Alameda County residents lived and worked in Alameda County. By 2006, 69 percent lived and worked in the County. Although the percentage of people living and working in the County has remained relatively stable since 2000, the trend over time has resulted in an increased number of long-distance commuters in Alameda County. The present transportation system, combined with the cost of housing and location of employment, allows people to make independent decisions about where to live and work.

Since a majority of the residents still work in the county, the primary transportation problem is how to move Alameda County residents within the County, followed by commutes to Santa Clara and San Francisco Counties (each of which accounts for 10 percent of Alameda's residents working or living out of the County in 2000).

### **Choice of Commute Mode**

Alameda County has the third lowest drive alone range of all the Bay Area counties, after San Francisco and Marin Counties. Between 2000 and 2006, the percentage of Alameda County residents commuting alone has remained fairly stable at about 66 percent. During the same time, County residents increased their use of alternative modes—transit, ridesharing, bicycling or walking, telecommuting—with the exception of carpooling.

### **Vehicle Ownership**

The American Community Survey, San Francisco Bay Area reports that between 2000 and 2005, the number of households in Alameda County without a vehicle declined. This is the continuation of a steady trend since 1960. In 1960, 19 percent of Alameda County residents did not own a vehicle. By 2005, nine

percent of households did not own a vehicle. In 2006, this trend shifted slightly with 9.6 percent, or 49,460 households, with no vehicle. The number and percentage of County households with three or more vehicles has increased steadily since 1960. In 2006, the percentage of residents with one or two vehicles per households was close to the 1990 vehicle ownership rates.

### Vehicle Occupancy

Regionwide, the average vehicle occupancy increased slightly from 1.097 in 1990 to 1.106 in 2000. The average vehicle occupancy for workers residing in Alameda County was slightly higher than the Bay Area's vehicle occupancy rate in 2000. With the shift to more people per vehicle in 2000, these figures indicate a slight decrease in reliance on the single-occupant automobile for commute trips.

### Transit

A high level of transit use would be expected given the broad choice of transit service provided in Alameda County combined with the rising cost of gas. The number of commuters using transit increased from 71,643 in 2000 to 76,217 in 2006. The overall share of workers using transit increased by 5.7 percent during this time, to 11.2 percent of the workforce. Among counties in the United States with a population greater than 65,000, Alameda County is ranked as having the 23<sup>rd</sup> highest transit-to-work share.

### Ridesharing

Ridesharing was the only transportation mode that slightly reduced in Alameda County since the 2000 Census. Between 2000 and 2006, the percentage of those sharing rides (carpools) decreased from 14.7 percent (99,185 commuters) in 2000 to 14.1 percent (95,899 commuters) in 2006. This trend suggests a small decrease in reliance on carpools.

### Bicycle

In 2006, Alameda County accounted for 14 percent of all bicycle commuters in the Bay Area, while accounting for 21 percent of the region's population. While this is smaller than Alameda County's 23 percent share of the region's bicycle commuters in 2000, the percentage of residents that commuted to work within Alameda County by bicycle increased from 1.2 percent in 2000 to 1.6 in 2006.

### Telecommuting

The share of Alameda County residents who worked at home increased from 3.5 percent in 2000 to 5.2 percent in 2006. Telecommuting and a national network of computers and communications technology offers opportunities to reduce transportation demand.

## PERFORMANCE OF THE SYSTEM

The *2007-2008 Performance Report* shows that most of the Congestion Management Program (CMP) highway system in Alameda County operated at an acceptable level of service (LOS D or better). During

the p.m. peak hour in 2008, 22 percent of freeway mileage and 10.5 percent of arterial mileage operated at LOS E or F. For freeways, this is a decrease from 1996 conditions when 30 percent of the freeways operated at LOS E or F and an increase for arterials when 7.5 percent of arterials operated at LOS E or F. In general, improved speed was experienced on the roadway system in 2008 compared to 2006, likely due to the slump in the economy combined with the record high gasoline prices in 2008.

Between 2000 and 2006, average commute times for workers residing in Alameda County and traveling by all transportation modes reduced slightly from 30.9 minutes to 29.2 minutes. Travel time reduced in all modes, with the exception of a 1.5 percent increase in travel time for those traveling in a three or more person carpool.

## **Congestion and Travel Times**

MTC jointly with Caltrans annually surveys the freeway system to identify the most congested corridors (see Figure 2.1). Some key findings in Alameda County in 2008 include:

- Overall congestion in the Bay Area including Alameda County declined from the previous year, likely due to the economic downturn combined with the record high gas prices.
- Vehicle hours of delay (VHD) (i.e., congestion) in Alameda County decreased by 17 percent from 2007 to 2008. Total delay in 2008 as reported by the Metropolitan Transportation Commission (MTC) was 53,000 vehicle hours as compared to 63,900 in 2007.
- However, congestion in Alameda County continued to account for nearly 40% of total congestion in the Bay Area.
- Alameda County has five of the Top 10 most congested corridors in the nine-county Bay Area.
- I-80 in the morning peak retains its rank as the most congested corridor in Alameda County.
- I-580 continues to be the second most congested corridor in the County, ranking second and fifth in the Top 10 most congested locations in Alameda County.
- Commuters travelling in Tri-Valley during the morning and evening peak periods experienced reduced congestion. In addition to the slowdown in the economy, this could be attributed to the highway improvements, such as ramp metering on I-580.
- Similarly, commuters experienced a drop in congestion on I-80 westbound travelling across the Bay Bridge, which could be attributed to the downturn in the economy.
- In 2008, 22 percent of freeways were performing at LOS E or F, a 14 percent increase from 2000 (peak of the dot com period).
- Compared to 2006, freeways showed improvement in 2008 while arterial speeds remained stable.
- The changes from 2006 to 2008 show average speeds in four freeway corridors increased notably in 2008, while one freeway corridor experienced significant drop in speed as below:

- Westbound I-80 from Central to Tollgate in the afternoon showed an increase of 9 mph from LOS F (27.7 mph) to LOS E (36.2 mph).
  - Southbound I-880 corridor from I-980 to Dixon Landing in the afternoon experienced an average 10.5 mph increase in speed from LOS E (37.1 mph) to LOS D (47.6 mph)
  - I-580 eastbound in the afternoon from I-80/I-580 split to I-238 improved from LOS E (39.6 mph) to LOS D (47.0 mph), an increase of 7.4 mph.
  - Northbound SR 13 between Mountain and Hiller experienced the largest increase in speed from LOS E (38.8 mph) to LOS C (51.0 mph), an increase of 12.2 mph.
  - Speed on I-680 northbound from Scott Creek to Alcosta degraded from LOS C (52.9 mph) to LOS D (43.4 mph), a drop of nearly 10 mph.
- The number of improved LOS F segments from the previous year also increased to 15 segments in 2008 compared to 9 improved segments in 2006.

For arterials, average speeds remained steady between 2006 and 2008 on twenty-two (22) arterial routes with notable decreases on two arterial routes and an increase on one arterial route:

- The two notable decreases in speeds occurred on 1) SR 238 Mission northbound from Jackson to I-680 northbound where average speeds decreased from 27.7 mph in 2006 to 23.1 mph in 2008; and 2) Decoto Road/Dumbarton Bridge eastbound from the County line to SR 238 where speeds decreased 4.4 mph from 30.3 mph in 2006 to 25.9 mph in 2008.
- On SR 84 Niles Canyon westbound between Isabel and SR 238, average speeds have increased from 35.4 mph in 2006 to 40.9 mph in 2008.

For many Alameda County residents, traffic issues are particularly acute on local neighborhood streets. Local streets in many communities have experienced increased traffic volumes, some of which are created by drivers diverting from congested freeways and arterials.

## Road Maintenance

Degradation of roadway surfaces is an issue for people who drive, take transit, bike or walk. The longer roadway maintenance is delayed, the higher the costs are for vehicle wear-and-tear. In 2008, 77 percent of roads were reported to be in fair to excellent condition. Pavement in very poor to poor condition represents about 23 percent of the county's roadways, which indicates a six percent increase since the previous year.

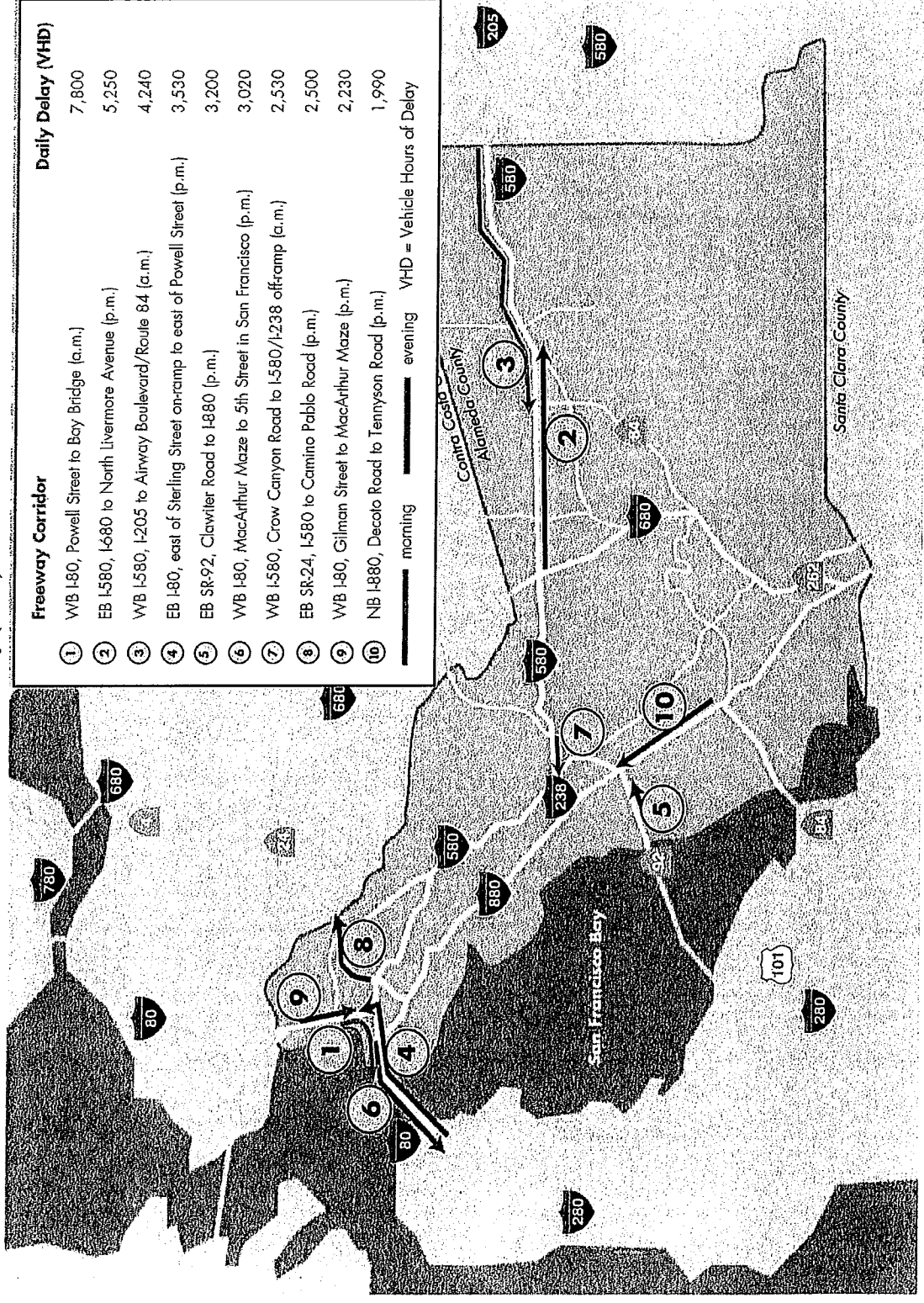
The MTC estimates current roadway maintenance needs on MTS and non-MTS local streets and roads throughout Alameda County<sup>2</sup>, also referred to as the backlog, at \$5.92 billion: \$3.06 billion on the MTS

---

<sup>2</sup> The Metropolitan Transportation System (MTS), which includes Alameda County's entire Congestion Management Program, or CMP-designated roadway system plus major arterials, transit services, rail, maritime ports, airports and transfer points that are critical to the region's movement of people and freight.

and \$2.86 billion on the non-MTS. The average maintenance backlog (per capita and per mile) is generally higher in the older communities in North County than in the newer communities in South County and East County.

Figure 2.1—Top 10 Congestion Locations in Alameda County (2008)



The MTC estimates a total 25-year shortfall of \$3.32 billion for rehabilitating and maintaining all of Alameda County's local streets and roads: \$1.73 billion for roadways on the MTS and \$1.58 billion for the non-MTS routes. If maintenance is deferred, the repair costs will increase exponentially as the roadways deteriorate. MTC estimates the total number of MTS and non-MTS miles to be 3,271. Of these, 306 miles, or nine percent, are on the MTS in Alameda County. Bridge maintenance needs over the 25-year period are \$2.07 billion with a \$1.04 billion shortfall.

## **Transit Service**

Existing bus, rail and ferry transit services are provided by BART, AC Transit, LAVTA, Union City Transit, Alameda-Oakland Ferry Service, Alameda Harbor Bay Ferry Service, ACE and the Capitol Corridor commuter rail service. Performance of transit operations is included in Appendix D.

The *2007-2008 Performance Report*, which is based on transit updates from 2007, indicates that transit ridership increased twelve percent in Alameda County between 2004 and 2007. Concurrently, there was a significant increase in the productivity of arterial transit service (i.e. bus service) due to a combination of factors, including a concentration of service on heavily patronized routes. Service concentration seems to have created a system that is simultaneously more responsive, more efficient and more effectively coordinated—a trend that appears to be continuing. Furthermore, the increase in gas prices has likely contributed to a greater reliance on transit.

Major highway corridors have frequent trunkline service. However, the following corridors do not have frequent service (vehicles arriving every 15 minutes or less):

- I-880, between South County and Santa Clara County;
- I-680, between Fremont and Dublin;
- I-680, between Dublin and Contra Costa County;
- I-580, between San Joaquin County and Dublin/Pleasanton;
- SR-92 (San Mateo Bridge); and
- SR-84 (Dumbarton Bridge).

## **Safety and Security**

### **Roadways**

Roadway safety statistics are compiled by Caltrans for Interstate and State Highways, Alameda County Public Works Agency for County roads and individual cities for roadway segments within incorporated areas. Caltrans also compiles "expected" accident rates for all non-city streets by comparing statewide accident statistics for similar types of roadways. Although the number of accidents per million vehicle

miles of travel dropped on seven of the 10 freeways located in Alameda County between 2004 and 2007, rates rose on I-238, I-680 and I-980 during that time. The accident rates on I-980, SR 84, SR 92, I-580 and I-680 are higher than the statewide average for similar facility types. Appendix E summarizes highway safety trends.

## **BART**

Passenger security and the perception of high-crime activity in the vicinity of transit stations and bus stops represent a barrier to encouraging transit use. Crime statistics compiled by BART police indicate that the number of Part I and Part II crimes<sup>3</sup> increased by 23 percent in Part I and Part II crimes from 2003 to 2007. During this time, the number of BART patrons at Alameda County stations increased by 37 percent. At any given time, there are typically 33 BART police patrol officers and supervisors on-duty throughout the system. They are responsible for monitoring 43 stations, 19 of which are in Alameda County. These stations provide over 46,000 parking spaces, 18,524 of which are in Alameda County. BART police believe that crime at BART stations reflects general crime levels for the surrounding communities; that BART itself does not bring criminals into the area. Appendix F presents the number of crimes committed at Alameda County BART stations in 2003.

## **AC Transit**

The Alameda County and Contra Costa Sheriff's Departments assume security responsibilities for AC Transit. Since 2004, the number of service calls received and Part I crimes committed more than doubled. Appendix G presents the number of crimes committed between 2004 and 2005.

## **Mobility for the Disabled**

The federal Americans with Disabilities Act (ADA) of 1990 mandated extensive changes to improve accessibility for persons with disabilities. Local agencies must ensure that roadway improvement projects are constructed (or reconstructed) with handicap-ramp access for sidewalks at all intersections and crosswalks. Transit agencies must provide: paratransit services comparable to fixed-route service, communications systems as effective as those for non-disabled persons, special transit operator training and improved lift and securement equipment on new, leased or modified buses.

Currently, all AC Transit, LAVTA and Union City Transit buses are lift-equipped and all bus lines are 100 percent accessible. New bus purchases meet all ADA requirements and new bus stop signs have been developed. The East Bay Paratransit consortium provides door-to-door shared ride service for passengers who meet eligibility requirements and make advanced reservations. Formed in 1994, the consortium consists of representatives from BART and AC Transit. The consortium provides service to the LAVTA and Union City Transit service areas as well.

---

<sup>3</sup> These crimes consist generally of criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny theft, motor vehicle theft, arson, fare evasion, battery and vandalism.

## Freight Movement

In 2004, truck travel accounted for almost six percent of the total vehicle miles traveled (VMT) on Alameda County highways, compared to an average of nearly five percent for large truck (not pickups and panel trucks) traffic in the region. Truck movements rely on Critical Freight Routes along I-80, I-880, I-580 east of I-238, and I-238. Although trucks use the roadway system at all hours, the peak period for truck travel in Alameda County is midday, with many truckers choosing to avoid the morning and afternoon commutes. Truck routes listed above are most affected by midday congestion.

Freight movement in Alameda County is focused largely around two major hubs: the Port of Oakland and the Oakland International Airport. Truck traffic generated by the Port of Oakland represents approximately two percent of all truck travel in the region. The Port is working with its transportation partners to expand the capacity of its intermodal rail terminals and to improve track access connecting the Port with the national rail system.

Additionally, the Port is working to divert containers moving between the Port and the Central Valley from truck to rail via a new short-haul service. One of the primary issues in providing additional rail service will be funding ongoing operating costs.

Key rail freight corridors are: Union Pacific line between the Port of Oakland and the City of Richmond (with trains operated by UP and BN-Santa Fe); one UP Pacific line between the Port of Oakland and Santa Clara County; and the UP line between the Port of Oakland and San Joaquin County via Niles Canyon. The UP and BNSF intermodal yards are located within the Port, providing transcontinental rail service from the Port.

Oakland International Airport is another major hub for freight movement in Alameda County. Key access roadways serving the airport are I-880, Hegenberger Road, 98th Avenue and Doolittle Drive (SR-61).

## PERFORMANCE SUMMARY

Annually, the CMA prepares a *State of Transportation in Alameda County, Performance Report*. The purpose of the report is to provide information on how the transportation system is functioning in the County. It also identifies transportation improvements to be considered in developing the Capital Improvement Program for the CMP and updating the *Countywide Transportation Plan*. Table 2.1 summarizes key findings of the 2007-2008 *Performance Report*.

**Table 2.1—Summary of Applied Performance Measures**

| PERFORMANCE MEASURE   | OBJECTIVE OF CMP                    | 2007-08 RESULTS  | OBSERVATION   |
|---|-------------------------------------|--|---|
| <b>HIGHWAYS</b>   |                                     |  |   |
| Level of Service (based on 2008 LOS Monitoring Report)                    | Mobility<br>Air Quality             | Updates in 2008, as follows:<br>Freeways: LOS A increased by 12.5%. LOS D, E, & F decreased by 11.3%.<br>Arterials: LOS A increased by 3.9%, LOS D & E decreased by 4%.  | The changes from 2006 to 2008 show freeways improving and arterials remaining steady.   |
| Average Speed (based on 2008 LOS Monitoring Report)                       | Mobility<br>Air Quality<br>Land Use | Updates in 2008, as follows:<br>Freeways: 50.4 mph for the afternoon peak<br>Freeways: 52.4 for the morning peak<br>Arterials: 25.2 mph for the afternoon peak   | The average speed during the evening peak on freeways increased by 5.5% from 2006 to 2008, while on arterials it increased by 4.8%.             |
| Travel Time (auto, transit and bike--based on 2008 LOS Monitoring Report) | Mobility<br>Air Quality<br>Land Use | Most recent information from 2008 follows:<br>In general transit trips took 2 to 5.5 times longer than auto for the 10 pairs studied.<br>Consistently Fremont-Pleasanton has the highest transit travel times that are over 4.5 times longer than auto.<br>Bicycle trips in the northern part of the county continue to compete well with both auto and transit trips. | Overall auto travel time has reduced and transit times have increased since 2006. Most transit delay is associated with transfer between lines. |

| PERFORMANCE MEASURE  | OBJECTIVE OF CMP                    | 2007-08 RESULTS   | OBSERVATION   |
|--|-------------------------------------|---|---|
| Duration of Congestion<br>(based on 2008 Highway Congestion Data from MTC for Alameda County roadways) | Economic<br>Air Quality             | Congestion measured in 2008 showed an overall drop in congestion levels; with 55,000 VHD in 2008, which is down from 63,900 VHD in 2006, a reduction of 17%.<br><br>Commuters experienced a drop in congestion on I-80 westbound travelling across the Bay Bridge reflecting the downturn in the economy. | The overall reduction in congestion on the freeway system is likely due to the downturn in the economy combined with record high gas prices in 2008.  |
| Maintenance (Local)  | Economic                            | Pavement Condition:<br>Excellent: 7 %<br>Very Good: 25 %<br>Good: 21 %<br>Fair: 23 %<br>Poor: 15 %<br>Very Poor: 8 %  | Percentage of roads reported to be in good or satisfactory condition changed by 1 % in the past year. This represents an average amongst the 15 jurisdictions.                                  |
| Accident Rates   | Mobility<br>Air Quality<br>Economic | Accident rates generally reduced in 2007 with a few freeways showing increases.   | The largest reduction was found on I-980 and the largest increase was found on I-238.   |
| <b>TRANSIT</b>   |                                     |   |   |
| Ridership  | Economic<br>Air Quality<br>Land Use | Transit ridership in terms of total annual passenger boardings in Alameda County has remained stable as an average of all transit operators in the County. This consists of one decrease combined with the remaining increases in ridership.  | Ridership increases are likely due to increased gas prices and systemwide improvements by the Transit Operators. Decrease in ridership for AC Transit maybe due to the downturn in the economy. |

| PERFORMANCE MEASURE                | OBJECTIVE OF CMP                    | 2007-08 RESULTS  | OBSERVATION  |
|------------------------------------|-------------------------------------|--|--|
| Coordination of Services           | Mobility<br>Air Quality             | Transfer facilities are located at BART, AMTRAK, ACE, Dublin and Livermore Transit Centers, two malls, Greyhound and ferry terminals   | The greatest number of transfer opportunities is found at the BART stations.   |
| Vehicle Maintenance                | Air Quality                         | Bus Service: Miles between mechanical road calls reduced for AC Transit and UC Transit and increased for UC Transit. Rail: Mean time between service delays remained stable for BART and increased by 46% for ACE since last year. | BART is continuing their Strategic Maintenance Program (SMP) initiative for secondary repair.  |
| Routing                            | Mobility<br>Air Quality<br>Land Use | Surface miles (directional route miles) covered by transit and service coverage increased by 3.5%, while passenger boardings increased by 2% on average.   | Increased boarding's reported by transit operators are likely due to a combination of systemwide improvements by Transit Operators and increased gas prices.   |
| Frequency                          | Mobility<br>Air Quality<br>Land Use | AC Transit and LAVTA have been providing 24 hours a day service since December 2005. BART increased frequency from 20 to 15 minute headways in the evenings and Sunday.  | Bus frequency remained relatively consistent compared to last year for all periods. Union City added a Sunday shuttle to Northern Fremont. BART increased frequency during evening and Sunday service. |
| <b>BICYCLE</b>                     |                                     |  |  |
| Completion of Countywide Bike Plan | Mobility<br>Air Quality             | Nine High Priority projects showed progress in environmental, design and funding in 2007.  | Bicycle facilities are progressing in Alameda County.  |